

CLAIM AMENDMENTS

1-115. (canceled)

116. (currently amended): A method of silencing a gene in ~~the cell~~ cells by post-transcriptional gene silencing (PTGS) which method comprises introducing into ~~said cell~~ said cells short RNA molecules (SRMs),

which SRMs ~~comprise equimolar amounts~~ consist essentially of isolated short sense RNA molecules (SSRMs) and isolated short antisense RNA molecules (SARMs) at the same abundance;

wherein said SARMs are complementary to a region of a target RNA transcribed from a gene which is silenced when said short RNA molecules are present ~~in a cell~~ in cells containing said gene and said SSRMs correspond to said target RNA; and

wherein the nucleotide sequences of the SSRMs and SARMs consist of 20-30 nucleotides, whereby said gene is silenced.

117. (currently amended): The method of claim 116, wherein the cells are contained ~~in said~~ in an organism and said introducing comprises administering said SRMs to the organism.

118. (previously presented): The method of claim 116, wherein the SRMs are synthetic.

119. (currently amended): The method of claim 116, wherein the SARMs have a structure complementary to a target mRNA transcribed from a gene endogenous to an organism selected [[.]] from the group consisting of a plant, a mammal, an avian organism, a reptile, an insect, a protozoan, and a nematode.

120. (currently amended): A method of silencing a gene in ~~the cell~~ cells of an organism by post-transcriptional gene silencing (PTGS) which method comprises introducing into ~~said cell~~ said cells a composition ~~comprising~~ consisting essentially of isolated short antisense RNA molecules (SARMs) and isolated short sense RNA molecules (SSRMs) corresponding to a target

RNA transcribed from said gene, the nucleotide sequences of which consist of 20-30 nucleotides and wherein said SARMs can base pair with said target RNA.

121. (previously presented): The method of claim 120, wherein said SARMs and SSRMs are present at equal abundance.

122. (previously presented): The method of claim 120, wherein the cells are contained in an organism and said introducing comprises administering said SSRMs and SARMs to the organism.

123. (previously presented): The method of claim 120, wherein the SSRMs and SARMs are synthetic.

124. (previously presented): The method of claim 120, wherein the SARMs have a sequence that can base pair to a target mRNA transcribed from a gene endogenous to an organism selected from the group consisting of a plant, a mammal, an avian organism, a reptile, an insect, a protozoan, and a nematode.